REMARKS

Claims 1, 3-7 and 9-20 are pending in the application; claims 2 and 8 are cancelled. Claims 12-15 are presently withdrawn pursuant to a restriction requirement. Favorable reconsideration in light of the amendments and remarks that follow is respectfully requested.

The Amendments

The Specification has been amended to recite cross-reference to related applications, as requested by the Examiner. The claims have been amended to address grammatical concerns and for consistency. Further claims 1 and 6 have been amended to recite protein produced from prokaryotic, yeast or *in vitro* system. Support for the amendment can be found in the Application, for example, page 8, line 22 through page 10, line 31.

The Claim Objections

Claim 1 has been amended to refer to SEQ ID NOS.

The Subject Matter Rejection

Claims 1-2, 6, 9, 17 and 19 have been rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claims 1 and 6 has been amended to recite an "isolated Glyrichin" or "isolated encoding gene" in accord with MPEP § 2105. The remaining claims depend from either claim 1 or 6, directly or indirectly.

Claim 11 has been amended to recite "applying" the Glyrichin proteins in an appropriate manner to achieve bacterial growth inhibition.

Therefore, it is respectfully requested that the rejection be withdrawn.

The Written Description Rejection and The Enablement Rejection

Claims 1-11 and 16-20 have been rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement and under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. Specifically, the Examiner asserts that written description is not provided for fragments nor derivatives of Glyrichin.

Claim 1 has been amended to recite that in addition to SEQ ID NO: 1, up to 20 amino acids may be deleted or substituted and/or up to amino acids can be added to the amino- or carboxy-terminus. A claim to a genus is appropriate if supported by a sufficient number of specific species disclosed in the Application.

Here, various species are disclosed in the Application, for example, Table 1, and ample guidance is provided. Table 1 lists possible substitutions that were possessed by the Applicants at time of filing and are fully expected by those have skill in the art to have antimicrobial function; the Application additionally teaches that it is preferred for the homology remain with 90% of the original SEQ ID NO: 1 or corresponding DNA sequence SEQ ID NO: 2 (see, page 5, lines 6-11). Specifically, the representative and preferred substitutions are readily recognized by those skilled in the art as being for amino acid residues with similar properties. For example, the short-chain hydrophobic residue Ala is recommended to be replaced with other short-chain hydrophobic amino acid residues Val, Leu or Ile; the aromatic amino acid residue Trp is recommended to be replaced with other aromatic amino acid residues Try and Phe; and ect. As such, the useful genus of peptides is fully described and within the ability of those skilled in the art to identify; the level of skill in the art is high with possession of a Ph.D. or M.D. degree. Such skilled persons can easily identify substitutions that conserve the basic function of the amino acid residue side chains.

Concerning the claim feature of addition of up to 20 residue on the C- or N-terminus, such additions are not expected to have any effect on the anti-microbial function.

As such, the balance of the *Wands* factors disclosed that the Applicants had possession of the claimed Glyrichin proteins at time of applications and that the Application fully teaches how to make and use the claimed invention. Therefore, it is respectfully requested that these rejections be withdrawn.

The Clear Claiming Rejection

Claims 1-11 and 16-20 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

The grammatical concerns have been addressed by amendment and SEQ ID NO has been inserted by amendment where appropriate.

Human and mouse Glyrichin share the sequences recited in SEQ ID NO: 1 and SEQ ID NO: 2.

Claim 1 has been amended to recite that the Glyrichin peptides may have one or more of the recited modifications to SEQ ID NO: 1.

Claims 10 and 20 have been appropriately amended.

Since the amendments remedy the indefiniteness concerns, it is respectfully requested that the rejection be withdrawn.

The Anticipation Rejection

Claims 1-10 and 16-20 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Kato et al (WO 99/43802).

Kato et al appears to disclose expression of SEQ ID NO:3 (Kato et al) in Saos-2 cells (Kato et al Table 1) for the purposes of producing antibodies having affinity to the same. Immunological responsiveness is highly dependent upon post-translational modification (i.e. glycolsylation) that is unique to the *in vivo* expression system through which recombinant proteins are produced. Proteins produced in prokaryotic systems and by *in vitro* methods lack such post-translational modifications all together.

Claim 1 has been amended to recite the expression of SEQ ID NO: 1 in one or more of prokaryotic systems, yeast, and by *in vitro* methods. Kato et al only teaches

production of the SEQ ID NO:3 of Kato et al in Saos-2. Such peptides produced in Saos-2 will have different glycolsylation and other post-translational modifications from the peptide of claim 1, as amended.

Claim 6 has been similarly amended to recite prokaryotic cells, yeast, and by *in vitro* methods.

Since Kato et al does not teach each and every limitation of claim 1, it is respectfully requested that the rejection be withdrawn.

Petition for Extension of Time

A request for a one THREE MONTH extension of time is hereby made. Payment is made *via* the EFS filing system.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-1063.

Respectfully submitted,

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